UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/919,831	08/02/2001	Brigitte Bathe	211736US0X	7640

22850 7590 07/18/2003

OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.
1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER	
KERR, KATHLEEN M	

ART UNIT	PAPER NUMBER
1652	13

DATE MAILED: 07/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/919,831	Applicant(s) BATHE ET AL.	
	Examiner Kathleen M Kerr	Art Unit 1652	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 May 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-33* is/are pending in the application.

4a) Of the above claim(s) *8-15 and 17-33* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,5,6 and 16* is/are rejected.

7)☒ Claim(s) *4 and 7* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *8,9* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☒ Other: *alignments w/IDS refs* .

DETAILED ACTION

Application Status

1. In response to the previous Office action, a written restriction requirement (Paper No. 11, mailed on April 10, 2003), Applicants filed an election received on May 12, 2003 (Paper No. 12). Claims 1-33 are pending in the instant Office action.

Election

2. Applicant's election with traverse of Group II, Claims 1-7 and 16 related to SEQ ID NO:3 (met), in Paper No. 12 is acknowledged. The traversal is on the ground(s) that the polynucleotides encoding SEQ ID NO:2, metR (Group I) are not distinct from the polynucleotides encoding SEQ ID NO:3 metZ (Group II), and that the Examiner has only made conclusory statements to that fact without providing evidence. This is not found persuasive because, as previously noted, the structure and functions of the polynucleotides are described in the specification as being different, i.e., distinct. The distinctness is most clear in the sequence listing. This same argument is set forth for the distinctness between Groups III and IV, drawn to coryneform with attenuated metZ and metR sequences, respectively. Again, the distinctness between Groups III and IV is based in their structures and functions, which, as previously described, are distinct as shown in the sequence listing.

Applicants also argue that Groups V-VI are not distinct from Groups IX and X; however, the Examiner previously noted that distinct products were produced in the distinct methods. In Groups V-VI, amino acids are produced while in Groups IX-X, polynucleotides are produced. These Groups are also distinctly classified. Applicants also argue that describing the relationship

between Groups I-II and Groups III-IV as being "wholly distinct" "would reasonably be completely dissimilar". Applicants argue that this cannot be the case based on the identical classification in a class. The Examiner notes that this class is class 435 related to most biotechnology. To say that everything in this class is related in some way is unreasonable unless one considered the broad description of "Chemistry: Molecular Biology and Microbiology" enough similarity to describe inventions as related. That is not the case here.

Applicants argue that the distinction between Groups I-II and Groups V-VI is only supported by conclusory statements. This is not the case; the statements were one of fact. Groups V-VI are drawn to the absence of the product claimed in Groups I-II. No conclusion was necessary to make this statement of fact.

Applicants argue the distinctness of Groups I-II from Group VII. The reasons provided in Paper No. 11, page 5, paragraph 1, are adequate since the methods of Group VII do not required the products of Groups I-II – the methods do not even mention metR, metZ, or SEQ ID NOs: 2 or 3.

Applicants argue the distinctness of Groups I-II from Group VIII. The reasons provided in Paper No. 11, page 5, paragraph 2, are adequate since the products of Group VIII do contain, in any way, the products of Groups I-II – the products of Group VIII do not even mention metR, metZ, or SEQ ID NOs: 2 or 3.

Applicants argue that Groups I-II are not distinct from Groups IX-X because there is not evidence of record as to the materially distinct process that can use the product. However, M.P.E.P. § 806.05(h) requires a reasonable example by the Examiner;

> "A product and a process of using the product can be shown to be distinct inventions if either or both of the following can be shown: (A) the process of

> using as claimed can be practiced with another materially different product; or (B) the product as claimed can be used in a materially different process. The burden is on the examiner to provide an example, but the example need not be documented. If the applicant either proves or provides a convincing argument that the alternative use suggested by the examiner cannot be accomplished, the burden is on the examiner to support a viable alternative use or withdraw the requirement."

A reasonable example was previously set forth, and Applicants have provided no reason why the alternative use suggested by the Examiner cannot be accomplished.

Applicants' argument of the restriction of Groups III-IV from Groups V-VI is identical to those presented for the restriction of Groups I-II from Groups IX-X. A reasonable example was previously set forth and Applicants have provided no reason why the alternative use suggested by the Examiner cannot be accomplished.

Applicants argue that the reasons for distinctness of Groups III-IV from Groups VII-VIII are inadequate without reasons and/or examples. The reasons provided in Paper No. 11, page 6, paragraph 1-2, are adequate since the methods of Group VII and the products of Group VIII do not required the products of Groups III and IV – the methods do not even mention metR, metZ, or SEQ ID NOs: 2 or 3.

The distinction of Groups III-IV from Groups IX-X describes how the sequence, which is attenuated (not present) in Groups III-IV, is used in Group IX and X. Thus, the hybridizing methods do not actually use the products of Groups III-IV.

Applicants argue that the distinction between Groups V-VI and Groups VII, IX, and X is only supported by conclusory statements. This is not the case; the statements were one of fact. Groups V-VI are drawn to the methods that do not use the reagents or produce the products of Groups VII, IX, and X. No conclusion was necessary to make this statement of fact.

Applicants argue that the distinction between Groups V-VI and Group VIII is only supported by conclusory statements. This is not the case; the statements were one of fact. Groups V-VI are drawn to the methods that do not use or produce the products of Groups VIII. No conclusion was necessary to make this statement of fact.

Applicants argue that Group VII is not distinct from Group VIII because there is not evidence of record as to the materially distinct process that can make the product. However, M.P.E.P. § 806.05(h) requires a reasonable example by the Examiner. This has been set forth in Paper No. 7, paragraph 3. Applicants argue that fermentation broths would not provide the product of Group III; the Examiner disagrees. The additive is described in the specification as an amino acid – there is nothing unusual about this product that required the process of making of Group VIII.

Applicants argue that the distinction between Groups VI and Groups IX-X is not supported by adequate evidence. This is not the case; the statements speak for themselves. Amino acids produced in Group VI are clearly different from polynucleotides produced in Groups IX-X. If Applicants cannot discern this distinction that is clear in the art, the Examiner suggests referring to a general biochemistry textbook for assistance.

Applicants argue that the holding that Group VIII is not related to Groups IX-X is improper since the subjects are in the same technical field. "Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01)" is a form paragraph taken directly from the M.P.E.P. The Examiner previously satisfied these requirements in Paper No. 11, page 8, paragraph 1.

The requirement is still deemed proper and is therefore made FINAL.

Priority

3. The instant application is granted the benefit of priority for the foreign application 100 43 335.9 filed in Germany on September 2, 2000 and for the foreign application 101 09 688.7 filed in Germany on July 28, 2001 as requested in the declaration. The instant application is also granted the benefit of priority for the U.S. Provisional Application No. 60/294,224 filed on May 31, 2001 as requested in the declaration. The Examiner notes that SEQ ID NOs: 1-3 are found in the provisional application as well as all the pending claim language. Thus, the earliest effective filing date for the examined claims herein is May 31, 2001.

4. Receipt is acknowledged of papers submitted under 35 U.S.C. § 119(a)-(d), which papers have been placed of record in the file. Said papers are not in English and, thus, cannot be used to pre-date any intervening prior art between the filing date of the instant application and the filing date of the foreign priority documents.

Information Disclosure Statement

5. The information disclosure statement filed on September 5, 2002 (Paper No. 10) has been reviewed, and its references have been considered as shown by the Examiner's initials next to each citation on the attached copy. The information disclosure statement filed on April 23, 2002 (Paper No. 9) has been reviewed, and its references are duplicates of those noted in the more extensive Paper No. 10. Thus, Paper No. 9 is considered a duplicate.

Drawings

6. The drawings have been approved by the Draftsmen and are, therefore, entered as formal drawings acceptable for publication upon the identification of allowable subject matter.

Sequence Compliance

7. By virtue of the amendment filed on November 21, 2001 (Paper No. 3), the instant application is in full compliance with the sequence rules.

Objections to the Specification

8. The specification is objected to because the title is not descriptive. A new title is required that is clearly indicative of the invention to which the elected claims are drawn (see M.P.E.P. § 606.01). The Examiner suggests the following new title:

---Nucleotide Sequences Encoding O-Succinylhomoserine Sulfhydrylase ---

9. In the specification, the Abstract is objected to for not completely describing the disclosed subject matter (see M.P.E.P. § 608.01(b)). It is noted that in many databases and in foreign countries, the Abstract is crucial in defining the disclosed subject matter, thus, its completeness is essential. A new Abstract is required. The Abstract should be a single paragraph; the Abstract should not merely reiterate a claim, but describe the entire subject matter disclosed in the specification. The Examiner suggests the inclusion of the full name of the proteins, transcriptional activator (metR) and O-succinylhomoserine sulfhydrylase (metZ) and the source species, *Corynebacterium glutamicum* for completeness.

Objections to the Claims

10. Claims 1-3, 5-7 and 16 are objected to as containing non-elected subject matter. All limitations to encoding SEQ ID NO:2 and metR must be removed. Claims drawn to SEQ ID NO:1 that depend from a claim requiring metZ (like Claim 4) are within the elected Group.

11. Claim 5 is objected to under 37 C.F.R. § 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. In Claim 5, item (iii), *any* DNA that hybridizes to SEQ ID NO:1 or a DNA that encodes SEQ ID NO:3, under even the lowest of stringency conditions, meets the limitations of Claim 5. This scope is broader than the scope of Claim 1, which requires a certain percent overall identity or at least 15 consecutive nucleotides in its broadest interpretation.

12. Claim 4 is objected to as depending from a rejected claim, Claim 1.

Claim Rejections - 35 U.S.C. § 112

The following is a quotation of the second paragraph of 35 U.S.C. § 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

13. Claims 1-3, 5, 6, and 16 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The phrase "of coryneform bacteria" is unclear as to its metes and bounds. Must the claimed polynucleotide be native to coryneform? Or can a plasmid be transformed into coryneform, for example carrying an *E. coli* gene, then extracted being "of

coryneform"? Clarification is required. The Examiner suggests the phrase ---native to--- for clarity.

14. Claims 1-3, 5, 6, and 16 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Item e) in Claim 1 is unclear because it calls for a complementary sequence while the preamble of the claim requires the polynucleotide to "code for the metZ gene" and the complement of a coding polynucleotide does not encode a gene. This confusion render both the phrase "which codes for ... the metZ gene[s]" and item e) unclear. Moreover, the phrase "codes for the ... metZ gene[s]" is unclear as to whether it limits the functionality of the claimed molecule. Clarification is required.

15. Claims 5-6 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a) In Claim 5, item (ii), the phrase "within the range of degeneration of the genetic code" is unclear. If Applicants intend to claim any DNA that encodes SEQ ID NO:2, which is disclosed in the specification as the polypeptide encoded by SEQ ID NO:1, appropriate encoding language is requested.
b) In Claim 5, between items (iii) and (iv), the phrase "and optionally" is confusing. Claim 5 reads, in summary, (i) or (ii) or (iii) and optionally (iv). It is unclear if item (iv) is an intended option for only item (iii) or if item (iv) is an intended option for any of items (i), (ii), or (iii).
c) In Claim 5, item (iv), the phrase "sense mutations of neutral function in (i)" is unclear. Item (i) is a DNA sequence whose function is disclosed as encoding the metZ gene product, SEQ ID NO:3. If this DNA function must not be changed to meet the limitation, then item (iv) appears identical to the interpreted meaning of item (ii). If the function of the encoded protein is not to be changed, then this function must be clearly defined in the claim as O-succinylhomoserine sulfhydrylase functionality as described throughout the specification.

Appropriate clarification/correction for all of the above points is required.

16. Claim 16 is rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 1, from which Claim 16 depends, is extremely broad and reads of polynucleotides that contain even portions of the disclosed metZ gene. Claim 16 can read on, it seems, 15 successive bases of any sequence regardless of its relation to the metZ gene. Thus, it would seem that Claim 16 is drawn to any coryneform bacteria containing a vector. Appropriate clarification is required.

Also in Claim 16, line 1, the article "The" is unclear since more than one coryneform bacteria are claimed. The appropriate article is ---A---.

The following is a quotation of the first paragraph of 35 U.S.C. § 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

17. Claims 1-3, 5, 6, and 16 are rejected under 35 U.S.C. § 112, first paragraph, written description, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 1 is drawn to polynucleotides having a particular, variable structure, having at least 15 nucleotides of a polynucleotide that is at least 70% identity to a polynucleotide that encodes SEQ ID NO:3 while having no defined function. The phrase "codes for the metZ gene" does not give a clear, functional limitation to the claims as noted above.

The Court of Appeals for the Federal Circuit has recently held that a "written description of an invention involving a chemical genus, like a description of a chemical species, 'requires a precise definition, such as be structure, formula [or] chemical name,' of the claimed subject matter sufficient to distinguish it from other materials." University of California v. Eli Lilly and Co., 1997 U.S. App. LEXIS 18221, at *23, quoting Fiers v. Revel, 25 USPQ2d 1601, 1606 (Fed. Cir. 1993) (bracketed material in original). To fully describe a genus of genetic material, which is a chemical compound, applicants must (1) fully describe at least one species of the claimed genus sufficient to represent said genus whereby a skilled artisan, in view of the prior art, could predict the structure of other species encompassed by the claimed genus and (2) identify the common characteristics of the claimed molecules, e.g., structure, physical and/or chemical characteristics, functional characteristics when coupled with a known or disclosed correlation between function and structure, or a combination of these.

The instant specification discloses polynucleotides related to SEQ ID NO:1 and related to polynucleotides encoding SEQ ID NO:3. Applicants have fully described the genus relating to said SEQ ID NOs with both sequence identity limitations and functional limitations (i.e., encoding the metZ gene product, an O-succinylhomoserine sulfhydrylase). However, the genus of the instant claims also contains polynucleotides within the sequence identity limitations, but having different function. Applicants have not fully described a genus that has sequence identity limitations in the absence of functional limitations so that one of skill in the art would be able to predict the other members of the claimed genus. The Examiner suggests adding clear function limitations to the claims wherein the polynucleotide claimed must encode a polypeptide having O-succinylhomoserine sulfhydrylase activity.

18. Claims 1-3, 5, 6, and 16 are rejected under 35 U.S.C. § 112, first paragraph, scope of enablement, because the specification, while being enabling for polynucleotides that encode SEQ ID NO:3, does not reasonably provide enablement for polynucleotides with such low sequence identity, such as the 70% identity claimed. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to use the invention commensurate in scope with these claims. The amount of experimentation required of one of skill in the art to use the claimed invention to the full extent of its scope is undue.

The factors to be considered in determining whether undue experimentation is required are summarized In re Wands 858 F.2d 731, 8 USPQ2nd 1400 (Fed. Cir, 1988). The court in Wands states: "Enablement is not precluded by the necessity for some experimentation such as routine screening. However, experimentation needed to practice the invention must not be undue experimentation. The key word is 'undue,' not 'experimentation.' " (Wands, 8 USPQ2d 1404). Clearly, enablement of a claimed invention cannot be predicated on the basis of quantity of experimentation required to make or use the invention. "Whether undue experimentation is needed is not a single, simple factual determination, but rather is a conclusion reached by weighing many factual considerations." (Wands, 8 USPQ2d 1404). The factors to be considered in determining whether undue experimentation is required include: (1) the quantity of experimentation necessary, (2) the amount or direction or guidance presented, (3) the presence or absence of working examples, (4) the nature of the invention, (5) the state of the prior art, (6) the relative skill of those in the art, (7) the predictability or unpredictability of the art, and (8) the breadth of the claims. While all of these factors are considered, a sufficient amount for a prima facie case is discussed below.

Applicants present no guidance or working examples of the use of polynucleotides that have such low sequence identity with respect to SEQ ID NO:1. The nature of the invention is such that the DNA encodes a protein product, metZ – O-succinylhomoserine sulfhydrylase, whose attenuation is useful in the biosynthesis of amino acids; and with such a great deviation from the known sequence, the predictability of retaining this same functionality becomes extremely low. No examples of other O-succinylhomoserine sulfhydrylases, with or without sequence information, are described in the specification for comparison to the disclosed metZ from *C. glutamicum*. Lastly, the instant claims are drawn to DNA sequences that encode a protein which is at least 70% identical to SEQ ID NO:3 and as few as 15 nucleotides of such a sequence. Such enormous breadth and unpredictability renders the instant claims not enabled to the full extent of their scope without undue experimentation.

Claim Rejections - 35 U.S.C. § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

19. Claims 1-3, 5, 6, and 16 are rejected under 35 U.S.C. § 102(a) as being anticipated by Pompejus *et al.* (WO 01/00843 – see IDS). The instant claims are drawn to polynucleotides, encoding O-succinylhomoserine sulfhydrylase, native to *Corynebacterium glutamicum* as set

forth in SEQ ID NOs: 1 (gene) and 3 (polypeptide). The instant claims are also drawn to coryneform comprising a vector encompassing such polynucleotides.

Pompejus *et al.* teach a polynucleotide (sequence 195) that is almost 100% identical to the portion of SEQ ID NO:1 that encodes SEQ ID NO:3 in the instant application (see attached alignment). Pompejus *et al.* also teach vector and host cells containing the disclosed sequences, particularly coryneform host cells.

20. Claims 1-2 and 5-6 are rejected under 35 U.S.C. § 102(b) as being anticipated by Johnston *et al.* (GenBank Accession Number U00059. *Saccharomyces* cerevisiae chromosome VIII cosmid 8263. Published September 4, 1997). The instant claims are drawn to DNA molecules having at least 15 consecutive nucleotides of SEQ ID NO:1 and that hybridizes to SEQ ID NO:1.

Johnston *et al.* teach a DNA sequence wherein an 11 amino acid portion exactly matches a polypeptide encoded by SEQ ID NO:1 (33-mer polynucleotide portion). This DNA will hybridize to SEQ ID NO:1 b virtue of the natural affinity all DNA has for other DNA.

Other Relevant Art

21. The Examiner notes the following:

a) Nakagawa *et al.* (EP 1108790 – see IDS) teach a polynucleotide (sequence 7068) that is 100% identical to SEQ ID NO:1 in the instant application (see attached alignment), which, therefore, encodes SEQ ID NO:3 exactly. Nakagawa *et al.* also teach vector and host cells containing the disclosed sequences, particularly coryneform host cells (see page 22). Nakagawa *et al.* is not considered prior art due to its international publication date of June 20, 2001, which is after the provisional application in the instant case. Nakagawa *et al.* do claim priority to earlier filing dates.
b) Hwang *et al.* (J Bacteriol. 2002 184(5): 1277-1286) teach sulfuration pathways in methionine biosynthesis in *C. glutamicum*. MetY from *C. glutamicum* is described as being responsible for the metZ step; metY taught by Hwang *et al.* is distinct from metZ taught in the instant application.

Conclusion

22. Claims 4 and 7 are objected to; Claims 1-3, 5, 6, and 16 are rejected for the reasons identified in the numbered sections of this Office action. Applicants must respond to the objections/rejections in each of the numbered sections in this Office action to be fully responsive in prosecution.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kathleen M Kerr whose telephone number is (703) 305-1229. The examiner can normally be reached on Monday through Friday, from 8:30am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ponnathupura Achutamurthy can be reached on (703) 308-3804. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9307 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0196.

Kathleen Kerr

KMK
July 17, 2003